

ABSTRACT

There is disclosed an ink jet printhead which comprises a plurality of nozzles 3 and at least one heater element 10 corresponding to each nozzle respectively. Each heater element 10 is operatively controlled by associated drive circuitry 22 and is configured to heat a bubble forming liquid 11 in the printhead to a temperature above its boiling point to form a gas bubble 12 therein. The generation of the bubble 12 causes the ejection of a drop 16 of an ejectable liquid (such as ink) through an ejection aperture 5 in each nozzle 3, to effect printing. The center of the drive circuitry 22 is offset from the center of the corresponding nozzle 3 by less than 200 microns. Positioning all the drive circuitry for the heater element of one unit cell 1 in a single, undivided area will reduce some conductor lengths within the circuitry and improve its efficiency. The present invention achieves this with an offset between the drive circuitry and the associated heater. That is, the drive circuitry is partially overlaid by one of the electrodes of the heater that it is controlling, and partially overlaid by one or more of the heater electrodes from adjacent unit cells. Configuring the nozzle components so that there is significant overlap between the electrodes and the drive circuitry provides a compact design with high nozzle density (nozzles per unit area of the nozzle plate). This also improves the efficiency of the printhead by shortening the length of the conductors from the circuitry to the electrodes.